

REMARKS

This application was originally filed on 31 December 2001 with thirty-six claims, seven of which were written in independent form. No claims have been allowed. Claims 3, 16-18, 20, and 21 have been amended, and Claim 4 has been canceled by this amendment. The amendments to the claims are intended to clarify and broaden the scope of the claims.

The applicant affirms election of Claims 1-7 and 16-21.

Claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,954,480 to Imanaka et al. (“Imanaka”) in view of U.S. Patent No. 4,782,028 to Farrier et al. (“Farrier”). The applicant respectfully disagrees and submits the Examiner has failed to present a prima facie case of obviousness as required.

“To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references.” Ex parte Clapp, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. & Inter. 1985).

“All words in a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970). “To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.” MPEP § 2143.03 (citing In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974)).

The Examiner has the duty to present a prima facie obviousness rejection. Under Graham, this requires determining the differences between the prior art and the claims at issue. The Examiner stated, Imanaka et al. teaches a method of forming a package substrate, the method comprising: providing sheets of substrate layers; forming metalized patterns on at least one of said sheets; laminating said sheets to form said package substrate (col. 4, lines 28-51) except that it does not show an cavity.” The applicant respectfully submits the Examiner has failed to show any suggestion in Imanaka of “separating said laminated sheets to form individual package substrates” as recited by Claim 1.

The Examiner stated, “Farrier et al. shows that it is known to provide a cavity formed in

the substrate having a floor defining a reference plane for providing a thinned region therein (col. 2, lines 19-20).” The applicant respectfully submits that not only is this a mischaracterization of Farrier, the Examiner’s analysis additionally fails to consider all of the limitations of Claim 1 as required. Farrier does not show, teach, or suggest a “package substrate,” much less a package “substrate having a cavity,” and certainly not “laminating said sheets to form said package substrate, said sheets shaped to provide a substrate having a cavity” as recited by Claim 1.

Farrier teaches a method “for forming a detector device, such as a thinned bulk silicon blocked impurity transducer infrared detector, by thinning a semiconductor substrate (10) and processing the thinned region (30) on two sides to form the detector device.” Farrier and Imanaka are not analogous art and cannot be combined as suggested by the Examiner.

The Examiner has the duty to present a prima facie obviousness rejection. The Examiner has not pointed to any teaching in the prior art suggesting the combination proposed by the Examiner. Instead, the Examiner merely states, after mischaracterizing Farrier, “Therefore it would have been obvious to someone of ordinary skill in the art at the time the invention was made to combine the teachings of Imanaka et al. with the cavity of Farrier et al. for the purpose of providing a thinned region therein (col. 2, lines 19-20).” Such a conclusory statement fails to show an express or implied suggestion in the art, and does not provide any line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references as required by Ex Parte Clapp.

To the contrary, to the extent that Farrier would suggest any combination with Imanaka, the suggestion clearly teaches away from the limitations recited by Claim 1. Farrier expressly teaches “forming a cavity in the original substrate to provide a thinned region therein.” (col. 2, lines 21-22) In particular, “after a window has been opened, potassium hydroxide etchant is applied through the window to selectively remove silicon in the substrate to form a cavity 26 within a substrate.” (col. 3, lines 37-40) In

Additionally, the Examiner has not addressed the limitation “said layers are shaped to expose limited regions of said reference plane outside said cavity” recited by Claim 1.

For the reasons stated above, the Examiner has not met the burden of presenting a prima facie case of obviousness. Therefore, the rejection under 35 U.S.C. § 103(a) is defective and

should be withdrawn.

Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Imanaka in view of Farrier. The applicant respectfully disagrees and submits, for the reasons argued above with respect to Claim 1, the Examiner has failed to present a prima facie case of obviousness as required.

Claims 2-7 and 17-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Imanaka in view of Farrier. Claims 2-7 and 17-21 depend from Claims 1 and 16 and should be deemed allowable for that reason and on their own merits. For the reasons argued above with respect to Claims 1 and 16, the Examiner has failed to present a prima facie case of obviousness of the independent claims, much less of the combination of the independent and the additional limitations of the dependent claims.

In view of the amendments and the remarks presented herewith, it is believed that the claims currently in the application accord with the requirements of 35 U.S.C. § 112 and are allowable over the prior art of record. Therefore, it is urged that the pending claims are in condition for allowance. Reconsideration of the present application is respectfully requested.

Respectfully submitted,



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